Features:
- A fully modular switchboard system that complies with the new IEC61439-1 & 2 design verification standards.
- User friendly Estimation & Design software.
- Fixed, demountable or fully withdrawable options all with internal arcing-fault containment in accordance with AS/NZS 3439.1:2002 Annex ZD.
- Internal segregation up to FORM 4b.
- Busbars up to 7100A.
- Short circuit withstand current up to 100kA / 3s.
- Insulated bus systems up to 6300A.

Benefits:
- Available off the shelf delivered flatpack to you.
- Complete assembly assistance offered by IPD.
- Very flexible - progressive & last minute design changes can be accommodated easily with little or no cost impact.
- Enables you to offer an enhanced solution to win jobs & improve your profitability.
- Quick and easy to assemble resulting in cost savings & improved utilization of your labour resources.
- Available in Grey RAL7032 or Orange RAL2000.
- Technical & Engineering support from IPD throughout Australia.

Providing Consulting Engineers and Switchboard Builders the BUILDING BLOCKS for advanced & cost effective solutions
FRAMEWORK

The framework is made up of:
- Base corners
- Plinth profiles
- Corners
- Corner bars
- Cross bars

Structure members range from 200mm up to 2400mm.

The structure is made from 2mm cold rolled electrogalvanised powder coated steel profiles with tapped holes at every 25mm forming a 25mm grid.

Untapped holes are located at every 12.5mm.

The base profiles include pre-cut holes to facilitate lifting of the switchboard.

All structural members of the framework are screwed together with captive screws to ensure rigidity & earth continuity.

Modular indicators are provided at every 200mm for easy identification during assembly.
Internal plates and cladding

Internal separation up to Form 4b can be achieved using standard parts:

- Mounting plates
- Separation plates
- Standard compartments

Internal separation plates and mounting plates are modular, metallic and offer IP2X protection. A range of insulated separation plates are also available.

All internal parts are painted white.

FINISH:

Doors and covers are dished and made of 1.5mm mild steel with an epoxy polyester powder coated smooth finish.

2mm doors and covers are available on request.

Flat covers are available as an option.

The framework and cladding is stocked in Grey RAL 7032 & Orange RAL 2000.

Doors may be hinged left or right.

Gaskets are continuous and are formed from high grade polyurethane to ensure good sealing & a high degree of protection up to IP55.
The busbar system is designed around 10mm wide flat bars and has been tested extensively for ratings up to 7100A / 100kA.

Busbars can be mounted at the top or bottom & can be arranged for front or back access.

The busbar holders have a unique clamping method that negates the need for drilling holes.

The holders are modular in size to suit all tier widths.

The system includes a wide variety of busbar holders from 250A-7100A that offers flexibility to design various switchboard arrangements.
COMPARTMENTS - FIXED TYPE

Fixed type compartments to Form 3a, 3b & 4a are available in modular sizes from 400w x 200h x 200d up to 600w x 600h x 400d.

FORM 4b can be achieved using cable boxes. Compartments are made up of 1.2mm mild steel, painted white and include mounting plates.

Larger size compartments are formed using separation plates.

Compartments come flat and are bent into shape using a simple bending tool.

Knock outs are included for incoming & outgoing connections along with a set of insulated + metal gland plates.
Fully withdrawable compartments are available rated up to 630A.

Compartment sizes range from 200W x 200H x 400D up to 600W x 1000H x 400D mm.

Compartments provide 3 distinct positions - INSERTED, TEST/ISOLATED and FULLY WITHDRAWN with position indicators and padlocking features.

Earth contacts that make first and break last are provided as a safety feature. Main switch shaft interlocks and compartment interlocks are also provided for added safety.

Heavy duty stainless steel handles and mechanism offer years of reliable operation.

Internal segregation of up to Form 4b is maintained to ensure the highest level of material safety.

**DEMOUNTABLE UNITS**

Demountable cells are in all sizes from 400w x 200H up to 600w x 600h.

Earth contacts that make first and break last are provided.

Doors may be hinged to the structure or as an option, may be fixed to the demountable cell itself. The cell design suits outgoings to the left or right as needed.
INTERNAL ARCING FAULT CONTAINMENT

TECHNO has been successfully tested for Internal Arcing Fault Containment to AS/NZS 3439.1:2002 Annex ZD. These tests have been carried out on Fixed, Demountable and Fully Withdrawable compartments using GE devices. Tests have been done at 415V and at 690V on circuit breakers, fuse switches and air circuit breakers with the highest rated device being an ACB rated 2000A. Tests have also been done within the busbar chamber in accordance with IEC1641.

All tests were carried out with stock standard components. The parts are designed in a way to release the overpressure within the compartments away from the front and to the top of the switchboard thus providing operator safety in the event of a fault.
DESIGN & ESTIMATION SOFTWARE

The **ELSTEEL PANEL DESIGNER** is a revolutionary Windows based software program for designing switchboards of just about any size in only a matter of minutes.

This software is very user friendly and allows boards to be designed and laid out quickly.

Changes and modifications to designs are easily done.

The software provides switchboard layout drawings along with the **TECHNO** parts list. It can also provide a complete list of the electrical components selected for the switchboard.

**ICAD** and **IDRAFT** are Cad based software programs used in the design + estimation of **TECHNO** switchboards. These softwares allow designers to generate isometric drawings along with parts lists.
The **CONSTRUCTORS MANUAL** is a comprehensive guide in full colour that includes all **TECHNO** parts listed with part numbers, description, weights and pack quantities.

The manual also includes assembly pictures, technical specifications, selection guides, inspections and check lists necessary for consultants, engineers and switchboard builders.

The **ASSEMBLY INSTRUCTIONS MANUAL** provides step-by-step instructions on the assembly of **TECHNO** switchboards.

The manual provides precise assembly methods along with clear pictures and is a useful tool for switchboard builders, mainly for new users.
ACCREDITATION / TRAINING

To ensure that TECHNO switchboards are built to standards and are in accordance with the type test requirements, IPD Industrial Products offers training and accreditation to switchboard builders. Refresher courses and updates are provided to ensure that Techno users are kept abreast of product developments and changes.

The training provides in-depth information on the various parts and accessories available within the Elsteel modular enclosure range, effective and practical design methods, exposure to the extensive type testing done on the TECHNO system and simplified estimating using EPD & ELCAD softwares.

IPD also offer technical and engineering support nationally to ensure that customers receive adequate assistance during design and assembly.
**TECHNO** is used in over 30 countries around the world. Over the last few years, **TECHNO** has built up several impressive references. In Australia and New Zealand, hundreds of **TECHNO** Modular Switchboards have been supplied for every possible application.

**AUSTRALIA & NEW ZEALAND**

- Stadium Australia, Sydney
- M5 East Tunnel, NSW
- Emirates Wolgan Valley Resort, NSW
- Parramata Rail Link, NSW
- Lane Cove tunnel, NSW
- Westmead Hospital, NSW
- Tamworth Hospital, NSW
- Citipower, VIC
- Eastlink Freeway, VIC
- Melbourne Water, VIC
- BAE Systems, VIC
- Perth Metro Rail, WA
- BHP Billiton Yandi III Ore Handling Facility, WA
- Playford Power Station, SA
- Western Mining Company, SA
- Brisbane Harbour Cruise Ship Terminal, QLD
- Queensland Emergency Operations Centre, QLD
- Australian Super Hornets Base Amberley (RAAF), QLD
- Merimbac Waste Water, QLD
- Townsville Waster Water Treatment Plant, QLD
- HMAS Waterhen, ADI
- Comalco, TAS
- Newmam Granite Gold Mine, NT
- Dreamworld Water Park, Gold Coast
- Telstra
- Woolworths
- Bluescope Steel
- Onesteel
### TECHNICAL DATA OF TECHNO MODULE SYSTEM

#### GENERAL DATA

- **Applications**: Low voltage power distribution, motor control centres, PLC & DCS panel boards
- **Installation**: Indoor
- **Mounting possibilities**: Floor standing / Wall mounting
- **Panelling standard colour**: RAL7032/2000 (inquire for non-standard colours)
- **Coating**: Epoxy/polyester powder, thickness >50μm

#### MECHANICAL DATA

- **Field/Tier Arrangement**: Front connected / back to back
- **Cable Entry**: Top / Centre / Bottom
- **Access**: Front/Rear
- **IP Rating**: IP41, IP42, IP54, IP55
- **Form of Segregation**: 1, 2a, 2b, 3a, 3b, 4a, 4b / Form 4 Type 1-7
- **Max. dimensions of a transport section**: Width - 2200, Height - 2400 (can be extended), Depth - 2200

#### ELECTRICAL DATA

- **Rated operations voltage (Ue)**: 415 / 690 / 1000V
- **Rated insulation voltage (Ui)**: 690V / 1000V
- **Rated frequency (f)**: 50Hz
- **Rated impulse voltage (Uimp)**: 6-8kV
- **Rated current (In)**: Up to 7100A (see pg. 9.05 for more info.), Up to 100ka / 1s & 50kA / 3s
- **Pollution degree**: 3
- **Earthing systems**: TN-C, TN-S, TN-C-S, TT, IT

#### TEST / APPROVALS

- **Type test**: Fully type tested according to IEC/EN 60439-1
- **Internal Arcing Fault test**: According to IEC61641 & AS/NZS 3439.1:2002
- **Vibration test**: According to IEC68-2-6 & IEC68-2-36
- **Seismic test**: According to IEC68-3-3
- **EMC verified**: According to IEC60439-1 clause 8.2.8
- **Lloyd's Registered**: Certificate No. 02/70003

### MATERIAL SPECIFICATION

<table>
<thead>
<tr>
<th>Component</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Base Frame</strong></td>
<td>2mm mild steel powder coated in black (RAL 9005)</td>
</tr>
<tr>
<td><strong>Corners</strong></td>
<td>Aluminium die cast powder coated in grey (RAL 7032) or Orange (RAL2000)</td>
</tr>
<tr>
<td><strong>Corner Bar / Cross Bar</strong></td>
<td>Electro galvanised 2mm powder coated in grey (RAL 7032) or Orange (RAL2000)</td>
</tr>
<tr>
<td><strong>Doors / Covers</strong></td>
<td>Mild steel 1.5mm powder coated in grey (RAL 7032) or Orange (RAL2000). 2mm available as an option.</td>
</tr>
<tr>
<td><strong>Door Stabiliser</strong></td>
<td>Mild steel 20 x 20 x 1.5 square pipe powder coated in grey (RAL 7032) or Orange (RAL2000)</td>
</tr>
<tr>
<td><strong>Mounting Plate</strong></td>
<td>Mild steel 2mm powder coated in white (RAL 9010)</td>
</tr>
<tr>
<td><strong>Separation Plate</strong></td>
<td>Mild steel (2 x 2, 2 x 4, 2 x 6, 4 x 4, 4 x 6) 1mm. All other sizes 1.2mm. Painted white RAL 9010</td>
</tr>
<tr>
<td><strong>Flat Cover</strong></td>
<td>Mild steel 1.5mm painted in grey (RAL 7032) or Orange (RAL2000)</td>
</tr>
<tr>
<td><strong>Panel Assembly</strong></td>
<td>Kit Mild steel 3mm zinc plated</td>
</tr>
<tr>
<td><strong>Cable Holder</strong></td>
<td>Mild steel 1.5mm to 2mm painted white (RAL 9010)</td>
</tr>
<tr>
<td><strong>Lifting Eyes</strong></td>
<td>Mild steel 3mm powder coated in black (RAL 9005)</td>
</tr>
<tr>
<td><strong>Wall Mounting Brackets</strong></td>
<td>Mild steel 3mm powder coated</td>
</tr>
<tr>
<td><strong>Busbar Holder</strong></td>
<td>Self-extinguishing fibre material / reinforced PC</td>
</tr>
<tr>
<td><strong>Fish Plate</strong></td>
<td>Copper 10mm</td>
</tr>
<tr>
<td><strong>H to V Connectors</strong></td>
<td>Copper 10mm</td>
</tr>
<tr>
<td><strong>Busbar Top-Off</strong></td>
<td>- 21000 Dia 10mm zinc plated</td>
</tr>
<tr>
<td></td>
<td>- 21010 Copper 5mm</td>
</tr>
<tr>
<td></td>
<td>- 21020 Copper 3mm</td>
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<tr>
<td></td>
<td>- 21030 M.S. 3mm zinc plated</td>
</tr>
<tr>
<td><strong>Bracket for Earth Conductor</strong></td>
<td>Mild steel 3mm zinc plated</td>
</tr>
<tr>
<td><strong>Copper Spacers</strong></td>
<td>Copper, 30mm diameter, 5 to 50mm in width</td>
</tr>
</tbody>
</table>